

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION

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TO: All Design Review Board Members

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SUBJECT: Phase One of Crane Cove Park at Port of San Francisco, Pier 70, City and County of San Francisco (Fifth Pre-Application Review)
(For Board consideration on July 14, 2014)

Project Summary

Project Proponent and Property Owner: Port of San Francisco (Port)

Project Site. Pier 70 is a 69-acre site owned by the Port of San Francisco, generally bound by Mariposa Street at the north, 22nd Street at the south, Illinois Street at the west and San Francisco Bay at the east (Exhibit 1). The site is the longest continually operating civilian ship repair yard in the United States and is home to the largest drydock on the West Coast. Ship repair uses are located at the northeastern boundary of the project site, which the *San Francisco Bay Plan* ("Bay Plan") designates as a Port Priority Use Area. The remaining areas are primarily composed of deteriorated and underutilized industrial facilities related to historic shipbuilding uses. The shoreline consists of discarded concrete, debris, and sheet pile walls. The Port of San Francisco conducted a multi-year planning process with the goal of developing Pier 70 into a mixed-use district with restored historic structures, public open space, and ongoing ship repair operations at the northeastern portion of the site.

The project for this Design Review Board meeting is limited to the five-acre area proposed for the first phase of the nine-acre Crane Cove Park to be located within the Pier 70 boundary. Crane Cove Park would be the first project implemented within BCDC's jurisdiction under the Port's Pier 70 master plan and would be a part of a nominated National Register Historic District. A portion of the proposed Crane Cove Park site would be built within the Commission's 100-foot shoreline band jurisdiction. Proposed shoreline treatment and rehabilitation, along with construction of overlooks, would occur within the Commission's Bay jurisdiction.

First DRB Review. At their first pre-application review of the project on January 7, 2013, the DRB and the Port of San Francisco Water Design Advisory Committee (WDAC) requested that the project applicant clarify the impact of proposed future development sites on the public access, explore design concepts to pull the site together, reconsider the design of the area known as Maritime Fields, refine treatment of the Bay edge, provide a clear and continuous path along the shoreline edge and maintain an industrial feeling at the site. Other issues such as stormwater treatment, public safety, elevated views, and sea level rise impacts were also raised. Additionally, they requested more information regarding the boating facilities and project phasing.

Second DRB Review. In their second pre-application review of the project on June 10, 2013, after reviewing a revised design for the project, the DRB and WDAC requested that the project applicant address fragmentation of the design, simplify the design of the prominent feature known as Slipway 4, emphasize the maritime use and history of the site, and clarify the proposal for the development site.



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Third DRB Review. The Port revised the project by simplifying the overall design, emphasizing land-water connections and proposing new overlooks. The project applicant also reconfigured adjacent open spaces to interact with Slipway 4. After reviewing the revised design for the project on September 9, 2013, the DRB and WDAC expressed concern about the proposed development site's impact on views and the usability of the public park. The Board encouraged the project applicant to study removing or relocating the development site. In addition, the Board recommended that the project applicant reconsider the phasing of the project to prioritize the Northern Shoreline area. The Board also recommended that the project applicant consider the interaction between the grading and historic resources along Illinois Street.

Fourth DRB Review. The Port revised the project design to remove the proposed development site and altered the phasing for the project. After reviewing these revisions to the Park Master Plan, the WDAC and Port's Central Waterfront Advisory Group (CWAG) reviewed and approved the Crane Cove Park Master Plan on December 9, 2013. Subsequently, the Port developed schematic designs for the first phase of the Crane Cove Park as illustrated in Exhibit 2, including two alternatives for the design for Crane Plaza located adjacent to Slipway 4 and the 19th Street extension, a native garden mound parallel with Illinois Street, two playgrounds near the Kneass Building, and pathways throughout the Northern Uplands area.

Design Review Issues. On May 5, 2014, after reviewing a revised design for the project, the DRB and WDAC requested that the project applicant consider several comments, as stated in BCDC's draft minutes from that meeting. The Port has revised the project in response to these comments (see Exhibit 3, July, 14, Crane Cove Park Schematic Plan). This fifth meeting will conclude the Board's review of the first phase of Crane Cove Park.

1. **The promenade along the shoreline should be strong and there should be smooth connections throughout. The geometries should be simplified.** The Port has moved the playground to the north of Building 49, opening more direct connections from the shoreline promenade to the access pathways around the Kneass Building leading out to Illinois Street. In addition, a six-foot-wide sidewalk adjacent to the multi-use lawn and new playground location has been lengthened to provide an improved connection from the shoreline promenade through the Northern Uplands area. (Exhibit 4 - 6).
2. **Option 2 of Crane Plaza is preferred as it provides universal access, however the flatter plaza offered by Option 1 is more comfortable. A hybrid of these two approaches should be developed.** The Port has developed a hybrid design for Crane Plaza that provides a flat plaza near 19th Street while ensuring universal access into the Slipway (Exhibits 7 and 8). The entry area is divided into a 15-foot-wide sloped walkway to provide access to the terraced steps and Slipway at a <4.9% slope, and a 31-foot-wide plaza between the sloped walk and 19th Street with a flatter 2-2.5% slope. The two areas would be divided by seating and retaining walls constructed from reclaimed slipway cribbage.
3. **There is concern that the playground creates a barrier between the Kneass Building and the Bay and so other locations and approaches to play should be considered.** The playground area originally located adjacent to the Kneass Building has been moved to an area north of Building 49, reduced in size and designed for toddlers to seven year-olds. The area near the Kneass Building previously used for the playground is now designed as the "Rigger's Yard," an informal play and seating area using shipbuilding forms and structures for older children and adults. "Ghost piles" would be erected, mimicking the existing conditions at the site, and reclaimed slipway cribbage of varying lengths will be stacked to provide a variety of benches, retaining walls, and balance beams. No fencing will be necessary for the "Rigger's Yard" area (Exhibit 4 - 6).

4. **The Northern Shoreline between the shoreline path and Illinois Street feels crowded and should be simplified.** The revised design has simplified this area and provided more permeability through it. The formal play area has been reduced and is enclosed with retaining walls and planters rather than with a fence; the connections across the area have been simplified; and the native planting areas have been reduced (Exhibits 4 – 6).
5. **The mound in the native garden area should be reduced to lessen physical and visual barriers to the Bay. Natives should be distributed throughout the site.** The Port has revised the native gardens between Illinois Street and the multi-use lawn by reducing the area for native planting. The proposed mound and native planting would be low enough to provide views of the Bay from Illinois Street while providing an enclosure for the area (Exhibits 4 – 6).
6. **Explore incorporating small areas of living shoreline whenever possible, carefully consider the proposed sand grain size for the beach, and further consider how the site will be designed and graded to accommodate projected sea level rise.** The Port has reviewed these comments and provides the following response:

a. Is it at all possible to incorporate some bits of living shoreline around beach area. A living shoreline is planned for a significant portion of the later phase of the park at Slipways 2 and 3 and is not practical in the initial phase of the park based upon the program of the shoreline, the need to retain the historic slipway and the need to remediate the hazardous material within the sediment. In order to accommodate a sandy shoreline, provide access into the Bay for human powered boats and mitigate the sediment contamination, the profile of the shoreline requires a gentle grade and use of a variety of materials to accommodate the program and remediation requirements, which are not suitable for a living shoreline.

b. Suggested the use of finer sand that will move less than coarser sand. Sediment motion in the shoreline zone impacted by waves (and induced longshore currents) is basically a balance between wave forces (primarily lift and drag) trying to move sediment particles and the resisting forces (primarily gravity and friction/ drag) tending to keep a sediment particle in place or cause it to drop out of suspension. At a site such as Crane Cove Park, with the range of material gradations being considered, the finer the grain size the more readily the material will be mobilized and transported in the wave impacted zone and the shallower/flatter the stable/equilibrium slope will be. The goal is to determine the sand gradation that best balances parameters of stable desired beach slope and extents with user friendliness, costs, availability, and maintenance/lifecycle costs. At this time we anticipate initial design will be based on utilization of what is referred to as coarse Angel Island Sand, which has a median grain size around 0.8mm (1/32"). This material is available in the area and has been utilized on other beaches. Design includes analysis of potential beach profile evolution and maintenance based on design wave parameters.

c. How is the site design and grading accommodating projected Sea Level Rise. The current design elevations acknowledge and accept projected sea level rise calculations based upon 16" rise by 2055 and 55" by 2100 with an expected project design of 50 years thus accommodating sea level rise to a minimum of 2065 (+28"). The project design anticipates and accepts that beginning in 2065 some park access restrictions, and significant maintenance, will be required during and after extreme storm events during high tides."

The Port has provided criteria to address sea level rise. This criteria is located in Attachment 1, and is based upon elevation data in Attachment 2. Both are provided on the following pages.

The Board should consider whether the project proponent has adequately responded to and addressed its earlier requests and comments.

ATTACHMENT 1: Port of San Francisco Sea Level Rise Criteria for Crane Cove Park

Sea Level Rise

- Design for 50 years of sea level rise (2065), 28 inches (2.33 ft)
- Plan for 2100 sea level rise projection of 55 inches (4.58 ft)

Flood Protection

- Provide a barrier to 100 year flood for sidewalks, roads, buildings...Base Flood Elevation
BFE = 11.85 FT (Tidal) = 0.59 FT (SFCD 2000); 2.90 FT (SFCD 2065)
-> USE 2.9 FT SFCD

Public Access

- **Main Path:** Keep above all tidal events (Extreme Tide/100yr still water); consider some flooding but not less than highest astronomical tide (HAT)
HAT = 7.77 FT (Tidal) = -3.49 FT (SFCD 2000); -1.18 FT (SFCD 2065)
-> USE -1.2 FT SFCD
- Allow flooding during 100 year storm

Minor Path:

- **Keep above normal tidal events, Mean High Higher Water**
MHHW = 6.34 FT (Tidal) = -4.92 FT (SFCD 2000), -2.61 FT (SFCD 2065)
-> USE -2.6 FT (SFCD)
- **Prevent Marine Growth (MHW for typical hardscape)**

Other:

- **Prevent Marine Growth (MHW for typical hardscape)**
MHW = 5.73 FT (Tidal) = -5.53 FT (SFCD 2000), -3.22 FT (SFCD 2065)
-> USE -3.2 FT (SFCD)
- **Allow tidal flooding**

Beach

- **Usable for all tidal events, Lowest Astronomical Tide (LAT) to Highest Astronomical Tide (HAT)**
LAT = -2.09 FT (Tidal) = -13.35 FT (SFCD 2000), -11.04 FT (SFCD 2065)
-> USE -13.3 FT (SFCD)
HAT = 7.77 FT (Tidal) = -3.49 FT (SFCD 2000), -1.18 FT (SFCD 2065)
-> USE -1.2 FT (SFCD)
- **Prevent Marine Growth**
- **Slope**
 - Fine Sand, 4% (25:1)
 - Medium to Course Sand, 8% max (12:1)
 - Pebbles (1/8" to 1" rounded), 14% (7:1)
 - Gravel (1/4" to 2" rounded), 25% (4:1)
 - Rock, 50% (2:1)

Hard Edge

- **Guard Rail for any drop over 30 inches**
- **Water at edge for all typical tidal events, Mean Low Lower Water**
MLLW = 0.00 FT (Tidal) = -11.26 FT (SFCD 2000), -8.95 FT (SFCD 2065)
-> USE -11.3 FT (SFCD)

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ATTACHMENT 2: Port of San Francisco Tidal Chart

Golden Gate Tide Station

Station: 9414290

Name: San Francisco, CA

T.M.: 120 W

Units: Feet

Status: Accepted (Apr 17 2003)

Epoch: 1983-2001

DATUM	DESCRIPTION	GG Station	Conversion	Project	Conversion to Other Datum (FT)			SF CITY DATUM w/ SEA LEVEL RISE 16" & 55" Linear Interpolation					
		Tidal Data	Factors for	Tidal Data	NAVD88	NGVD29	SF CITY	2015	2025	2050	2065	2075	2100
		MLLW	CCP	MLLW	0.08	-2.64	-11.26	0.40	0.67	1.33	2.31	2.96	4.58
TWL	100 yr Total Water Level (URS 2012 Rpt)			12.25	12.33	9.61	0.99	1.39	1.66	2.32	3.30	3.95	5.57
SWL	100yr Still Water Level (URS 2012 Rpt)			9.20	9.28	6.56	-2.06	-1.66	-1.39	-0.73	0.25	0.90	2.52
EHW	Highest Observed Water Level (1/27/1983)	8.66	0.50	9.16	9.24	6.52	-2.10	-1.70	-1.43	-0.77	0.21	0.86	2.48
HAT	Highest Astronomical Tide (12/31/1990)	7.27	0.50	7.77	7.85	5.13	-3.49	-3.09	-2.82	-2.16	-1.18	-0.53	1.09
MHHW	Mean Higher-High Water	5.84	0.50	6.34	6.42	3.70	-4.92	-4.52	-4.25	-3.59	-2.61	-1.96	-0.34
MHW	Mean High Water	5.23	0.50	5.73	5.81	3.09	-5.53	-5.13	-4.86	-4.20	-3.22	-2.57	-0.95
MTL	Mean Tide Level	3.18	0.30	3.48	3.56	0.84	-7.78	-7.38	-7.11	-6.45	-5.47	-4.82	-3.20
MSL	Mean Sea Level	3.12	0.30	3.42	3.50	0.78	-7.84	-7.44	-7.17	-6.51	-5.53	-4.88	-3.26
DTL	Mean Diurnal Tide Level	2.92	0.20	3.12	3.20	0.48	-8.14	-7.74	-7.47	-6.81	-5.83	-5.18	-3.56
MLW	Mean Low Water	1.13	0.00	1.13	1.21	-1.51	-10.13	-9.73	-9.46	-8.80	-7.82	-7.17	-5.55
MLLW	Mean Lower-Low Water	0.00	0.00	0.00	0.08	-2.64	-11.26	-10.86	-10.59	-9.93	-8.95	-8.30	-6.68
LAT	Lowest Astronomical Tide (5/25/1986)	-2.09	0.00	-2.09	-2.01	-4.73	-13.35	-12.95	-12.68	-12.02	-11.04	-10.39	-8.77
ELW	Lowest Observed Water Level (12/17/1933)	-2.88	0.00	-2.88	-2.80	-5.52	-14.14	-13.74	-13.47	-12.81	-11.83	-11.18	-9.56

Sea Level Rise Criteria:

- 1) Sea level rise of 16" by 2050 and 55" by 2100, starting at 2000 (Epoch 1983-2001)
- 2) Expected Project Completion Date, 2015
- 3) Project Lifespan, 50 years
- 4) Design for sea level rise at end of project life, 2065



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